

Att'y Ref. No. 003-089

U.S. App. No.: 10/676,087

**REMARKS**

Favorable reconsideration, reexamination, and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks.

**Withdrawal of Claims**

Applicant acknowledges the withdrawal of Claims 7, 9, 11, and 13 from consideration at this time, pursuant to the Restriction / Election requirement in the Office Action dated 23 July 2004.

**Information Disclosure Statement (IDS)**

Applicant acknowledges receipt with the Office Action of a copy of a partially-examiner-initialed form PTO-1449 from the IDS filed 29 June 2004. Applicant notes, however, that the citation of the Search Report in a corresponding EPO patent application was not initialed. Applicant respectfully requests that the Search Report be considered, the form PTO-1449 fully initialed, and a copy of the fully-examiner-initialed PTO-1449 returned to Applicant.

**Rejection under 35 U.S.C. § 112, second paragraph**

In the Office Action, beginning at page 2, Claim 8 was rejected under 35 U.S.C. § 112, second paragraph, as reciting subject matter that allegedly is indefinite. Applicant respectfully requests reconsideration of this rejection.

By way of the foregoing amendments, Claim 8 has been revised to correct the typographical error in the claim, by reciting the "support" in the singular.

For at least the foregoing reasons, Applicant respectfully submits that Claim 8 fully complies with 35 U.S.C. § 112, second paragraph, and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 112.

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**Rejection under 35 U.S.C. § 102**

In the Office Action, beginning at page 3, Claims 1-6, 8, 10, and 12 were rejected under 35 U.S.C. § 102, as reciting subject matters that allegedly are anticipated by the prior art. Specifically, Claims 1-6, 8, and 10 were rejected under section 102(b) over U.S. Patent No. 4,645,217, issued to Honeycutt, Jr. et al. ("Honeycutt"), and Claims 1 and 12 were rejected under section 102(b) over U.S. Patent No. 3,975,114, issued to Kalkbrenner. Applicant respectfully requests reconsideration of these rejections.

The present application describes numerous seal assemblies embodying principles of the present invention. With reference to the elected species illustrated in Figs. 1-4, a seal 5 is positioned between a casing 4 and a combustion chamber 1 and spans a pair of combustor liner segments 2. Recognizing that the temperature gradient from the cold side B to the hot side A can be quite significant, thus imperiling the stability of the seals 5, the inventors herein developed a seal assembly that can perform in such harsh conditions. A laminated connector plate 8 is connected to one or more spring side supports 7, and the plate 8 includes a number of layers. A thermal insulation layer 10 is sandwiched or otherwise located between an inner, e.g., cold side, band 9 and an outer, e.g., hot side, band 11. Optionally, cooling holes, e.g., holes 13, can be provided so that cooling fluid (e.g., air) can be forced or drawn through the seal 5.

Claim 1 relates to a seal assembly including a combination of elements including, *inter alia*, a layered structure, a spring side support, and wherein the layered structure is connected on two sides to the spring side support. The prior art, including *Honeycutt* and *Kalkbrenner*, fails to disclose each and every element recited in the combinations of the pending claims.

Applicant notes that some subject matter originally recited in Claim 6 has been incorporated into the sole independent claim, Claim 1. Applicant amends the claims without acquiescing to the rejections in the Office Action, and expressly reserves the right(s) to file one or more Continuation and/or Divisional applications to further pursue subject matter described in this application. Furthermore, because Claim 6 was not rejected under section 102 in view of *Kalkbrenner*, Applicant respectfully submits that the rejections of Claims 1 and 12 thereover are now moot.

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*Honeycutt* describes a finger seal assembly 2 which, according to *Honeycutt*, provides a dynamic seal between a sleeve 59 and flanges 4 and 6. The seal 2 includes a number of arcuate finger seals 12 each made from an outer metal member 32, an inner metal member 30, and a high temperature cloth 38 between members 30, 32. The members 30, 32 include slots 38, thus defining fingers 34, 36 and solid portions 42, 46. Figures 5 and 6 appear to illustrate two and three layers of cloth 38 between members 30, 32. As illustrated in Fig. 4, the portion of the seal 2 that presses against the sleeve 59, which corresponds to the portions of the seal at the bottom of Figs. 2 and 3, is slightly curved, while the opposite portion includes spot welds 68 adjacent to portions of the seal through which blind rivets 58 attach the seals to the flanges 4, 6. As discussed by *Honeycutt* at column 4, line 28 *et seq.*, a number of segments such as those illustrated in Figs. 2 and 3 are assembled, end to end, circumferentially around the sleeve 59. The ends of fingers 36 are made to wrap around the cloth 38 and the ends of fingers 34, as suggested in Figs. 3 and 6.

Thus, *Honeycutt* fails to describe each and every element recited in the combinations of the pending claims. More specifically, *Honeycutt* fails to disclose or describe, in combination with other features recited in the pending claims, a layered structure and a spring side support, with the layered structure connected on two sides to the spring side support. Indeed, *Honeycutt* fails to describe a spring side support at all, and therefore fails to describe such a support in combinations such as those recited in the pending claims. Accordingly, *Honeycutt* fails to anticipate the subject matters of Claim 1 *et seq.*

For at least the foregoing reasons, Applicant respectfully submits that the subject matters of Claims 1-6, 8, 10, and 12 are not anticipated by either *Honeycutt* or *Kalkbrenner*, are therefore not unpatentable under 35 U.S.C. § 102, and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 102.

#### New Claims

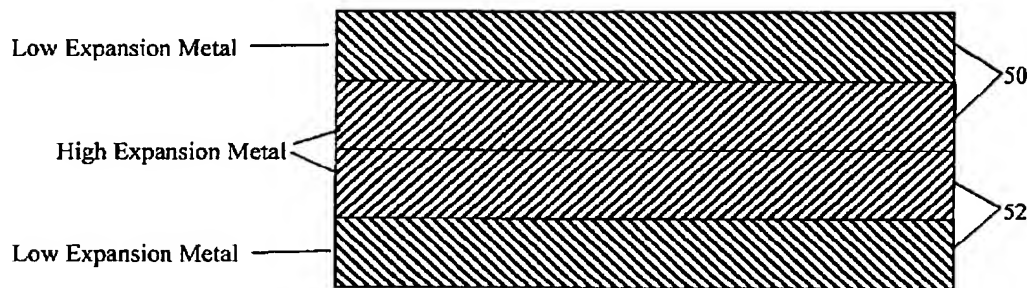
New Claims 14-20 have been added. Claim 14 is an independent claim that is based on original Claim 12, but does not include a spring side support. While the rejection of Claims 1

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and 12 over *Kalkbrenner* is now moot, Claims 14-20 are allowable over *Kalkbrenner* for yet other reasons. The Office Action alleges, at page 4, that *Kalkbrenner* describes a first layer 50, a second layer ("layer after 50") "of thermal insulating material", and a third layer 52. Contrary to this assertion, however, *Kalkbrenner* does not describe any sort of thermal insulating layer.

Applicant has prepared a rough diagram below of the end view of (and therefore cross-sectional view through) the bimetal ribbon seal 46, illustrated in Fig. 4:



As plainly described by *Kalkbrenner*, each ribbon 50, 52 is formed of two pieces of metal: one with high (thermal) expansion characteristics, the other with low (thermal) expansion characteristics. In this manner, according to *Kalkbrenner*, when the seal 46 is exposed to high temperatures, the seal 46 bows (see Figs. 5, 6). While this may be an interesting solution to problems addressed by *Kalkbrenner*, there is no disclosure or description of any thermal insulating layer in the seal 46. The statements in the Office Action to the contrary are simply incorrect.

Accordingly, Claims 14-20 are also free of the prior art, an early indication of the allowability of which is respectfully requested.

### Conclusion

Applicant respectfully submits that the present patent application is in condition for allowance. An early indication of the allowability of this patent application is therefore respectfully solicited.

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If examiner Patel believes that a telephone conference with the undersigned would expedite passage of this patent application to issue, they are invited to call on the number below.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. If, however, additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the Commissioner is hereby authorized to charge fees necessitated by this paper, and to credit all refunds and overpayments, to our Deposit Account 50-2821.

Respectfully submitted,

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